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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/506,717	02/18/2000	Harold E Helson	103544.127	9161

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EXAMINER

MARSCHER, ARDIN H

ART UNIT

PAPER NUMBER

1631

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.  
09/506,717

Applicant(s)  
Henson

Examiner  
Ardin Marschel

Art Unit  
1631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on Apr 4, 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on Feb 18, 2000 is/are a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_ 6) ☒ Other: Attachment for PTO-948

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission, filed on 4/4/02, has been entered.

Applicants' arguments, filed 4/4/02, have been fully considered but they are not deemed to be persuasive. Rejections and/or objections not reiterated from previous office actions are hereby withdrawn. The following rejections and/or objections are either reiterated or newly applied. They constitute the complete set presently being applied to the instant application.

Applicant is hereby notified that the required timing for the correction of drawings has changed. See the last 6 lines on the sheet which is attached entitled "Attachment for PTO-948 (Rev. 03/01 or earlier)". It is noted that a PTO Form 948 was mailed with Paper No. 4 on 6/15/01. Due to the above notification Applicant is required to submit drawing corrections within the time period set for responding to this Office action. Failure to respond to this requirement may result in abandonment of the instant application or a notice of a failure to fully respond to this Office action.

Claims 1-18 are rejected, as discussed below, under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In line 1 of claim 1 the method is stated as being directed as to usage to "deriving fixed bond information". Thus, it would be expected that the result of performance of the claim would be the deriving of information regarding fixed bond(s).

Confusingly, claim 1 has four steps, none of which derive information about fixed bonds. The closest information steps are the identifying steps and the evaluating steps. In the identifying step there is no deriving because valence information, apparently available without derivation, is merely identified in at least a portion of the chemical structure from the analyzing step. In the evaluating step there is no derivation because some type of evaluation is performed of already available candidates. Lastly, in the selecting step candidate(s) are selected again from already available candidates. There is no apparent derivation but rather only identification, evaluation, and selection from already available structure(s). Thus, the claim is vague and indefinite as to whether it requires any type of derivation as indicated in the preamble or whether the claim subject matter only requires the non-derivation steps of analyzing, identifying, evaluating, and

selecting. Clarification via clearer claim wording is requested. This same unclarity as to the metes and bounds of the claims exists in claims 2-18 either directly analogously to the above claim 1 unclarity or due to dependence from a claim which includes said unclarity.

Claim 10 lacks clear antecedent basis for "the produced fixed bond representation" phrase because no such representation is "produced" in claim 1 from which claim 10 depends. Analyzing, identifying, evaluating, and selecting steps as in claim 1 do not cite anything being produced. Clarification via clearer claim wording is requested.

Claims 13 and 14 lack clear antecedent basis for the phrase "the table" in line 1 of each claim. This phrase is reasonably interpreted that some specific table as characterized by "the table" should be described in claim 1. No table is cited in claim 1 which therefore does not provide antecedent basis for "the table" in claim 10. Clarification via clearer claim wording is requested.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the

date of application for patent in the United States.

Claims 1, 2, 4, 6-8, 11, and 15-18 are rejected under 35 U.S.C. § 102(b) as being clearly anticipated by Morrison and Boyd (Organic Chemistry, 1973).

On page 261 of the reference keto-enol tautomerism is depicted as well as disclosed. The keto-enol structures in the bottom half of the page disclose delocalized electron distribution via the presentation of double versus single bonds, as in the first step of instant claim 1. It is extremely well known in the chemical arts that a single bond represents the sharing of one electron pair between the bonded atoms whereas a double bond represents the sharing of two electron pairs between the bonded atoms. Two electron pairs accounts for 4 electrons whereas one electron pair accounts for 2 electrons. Thus, the electron number in these structures is different between portions of the structure and thus are delocalized for this reason as well as delocalized via the sharing of electron pairs. This sharing of either one or two electron pairs delocalizes the shared electrons from the atom(s) with which they were associated prior to entry into the bonded state into a shared localization. Such a shared localization is delocalized compared to the unshared state. At the bottom of page 261 these structures are analyzed for their ability to shift between the keto and enol forms as well as ionic aspects of these structures as well as the

acidity character as being a stronger or weaker acid. Each of the structures in the tautomerization options for the chemical are identified and depicted regarding the bonding and discussed as such as the keto and enol forms as well as an intermediate anionic form at the bottom of the page. These forms inherently must be "identified" in order to draw their structures, as required in the second step of claim 1. Each of the structures including the anionic form are evaluated, as in the third step of instant claim 1, regarding polarity as well as acidity as noted in the last 7 lines on page 261. Lastly, the keto form is selected as being the favored structure in lines 26-27 on page 261 as required in the last step of claim 1. Thus, the steps of instant claim 1 are clearly anticipated by the reference. Other tautomer forms are depicted, analyzed, identified, evaluated, and selected for various reaction discussions in the reference including the pyridine forms on page 1011 which extends the claim 1 type of structure to such specific chemical forms and the anticipation of the corresponding instant claims. The textbook reference as cited herein is also deemed as system as in instant claim 2 because it systematically discloses various chemicals regarding the above steps as a textbook commonly is known to do so.

The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this

## Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 3 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Morrison and Boyd (Organic Chemistry, 1973) taken in view of In re Venner [262 F.2d 91, 95, 120 USPQ 193, 194 (CCPA 1958)].

The Morrison and Boyd description of the steps in claim 3 have been summarized above and are reiterated here. Morrison and Boyd, however, lacks computerization or automation in the form of software as in instant claim 3.

In the MPEP at section 2144.04, part III, the legal decision of In re Venner is cited which sets forth the motivation and suggestion of automating, or, in recent decades, the computerization including software, of a manual activity as being obvious. The Morrison and Boyd tautomer methods are manual as set forth in this textbook thus being a automatable manual activity as required in In re Venner.

Thus, it would have been obvious to someone of ordinary skill in the art at the time of the instant invention to automate or equivalently generate computer software to automate a manual



activity as suggested and motivated by In re Vener of a manual chemical method as in Morrison and Boyd thus resulting in the practice of instant claim 3.

The disclosure is objected to because of the following informalities:

On page 2-3 a section entitled "Brief Description of the Drawings" is set forth but is incomplete. A brief description of each drawing separately is required.

In claim 16, line 2, the word "practicable" seems to be misspelled.

Correction is required.

No claim is allowed.

Papers related to this application may be submitted to Technical Center 1600 by facsimile transmission. Papers should be faxed to Technical Center 1600 via the PTO Fax Center located in Crystal Mall 1. The faxing of such papers must conform with the notices published in the Official Gazette, 1096 OG 30 (November 15, 1988), 1156 OG 61 (November 16, 1993), and 1157 OG 94 (December 28, 1993) (See 37 CFR § 1.6(d)). The CM1 Fax Center number is either (703)308-4242 or (703)305-3014.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ardin Marschel, Ph.D., whose telephone number is (703)308-3894. The examiner can normally be reached on Monday-Friday from 8 A.M. to 4 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Woodward, Ph.D., can be reached on (703)308-4028.


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Any inquiry of a general nature or relating to the status of this application should be directed to Patent Analyst, Tina Plunkett, whose telephone number is (703)305-3524 or to the Technical Center receptionist whose telephone number is (703) 308-0196.

June 14, 2002

  
ARDIN H. MARSCHEL  
PRIMARY EXAMINER